

MIMO-BASED SPACE-TIME WIRELESS SENSOR
NETWORKS COMMUNICATIONS

Abstract of the Disclosure

This invention presents a MIMO-based space-time wireless sensor networks communications, which is expected to utilize a larger of size sensor nodes in commercial environment, potentially hostile and militarily sensitive environments. Every sensor node of the MIMO-based space-time sensor networks communications is to support data collection, signal processing and analysis, and transmission fashion. The present invention also develops novel approaches of advanced space-time processing with the MIMO sensor-antenna architecture, spread spectrum, and adaptive communication signal processing that simultaneously exploit temporal and spatial diversity for seamless sensor networks communications, thereby converting spatially distributed sensor nodes into efficient, robust, reliability, and secure wireless sensor networks communications.